

From the
INTERNATIONAL SEARCHING AUTHORITY

"Appendix A"

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2004/028494

International filing date (day/month/year)
01.09.2004

Priority date (day/month/year)
02.09.2003

International Patent Classification (IPC) or both national classification and IPC
B25B23/00, B25B13/48, B25B13/06

Applicant
ALCOA GLOBAL FASTENERS, INC.

Due: 3-15-05

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 65.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80288 Munich
Tel. +49 89 2399 - 0 Tx: 523656 eptm d
Fax: +49 89 2399 - 4465

Authorized Officer

Schultz, T

Telephone No. +49 89 2399-2679



WRITTEN OPINION OF THE
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International application No.
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Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II Priority

- 1.
- ☒
- The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

- 2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
- 3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
- 4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-15
	No: Claims	
Inventive step (IS)	Yes: Claims	1-15
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-15
	No: Claims	

2. Citations and explanations

see separate sheet

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Re Item V.

- 1 The following documents are referred to in this communication:
D1: US-A-2 007 432 (EMANUEL MANCUSO) 9 July 1935 (1935-07-09)
D2: US-A-4 762 030 (NGUYEN PETER D) 9 August 1988 (1988-08-09)
- 2 Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parenthesis applying to this document):

A fastener installation tool (fig. 4) for installing a threaded nut with a non-circular external surface onto a threaded fastener of the type having a non-circular recess in an end of the fastener that matingly engages with a male member that has a complementary shaped non-circular tip end to the non-circular recess (page 1, col. 1, lines 8-34), the fastener installation tool comprising:

- a head (14);
- a rotatably operable gear (A) disposed within the head, the gear having a non-circular bore (page 1, col. 1, line 40);
- a socket, the socket having a non-circular seat configured to matingly engage the non-circular nut that has a complementary shaped non-circular external shape to the non-circular seat (page 1, col. 2, lines 49-51);
- the socket having a shaft (21) with a non-circular external surface and a tubular bore internal surface, the shaft matingly engaged within the bore of the gear having a complementary shaped non-circular shape to the non-circular external surface of the shaft (page 1, col. 2, lines 36-48);
- a key (11, 12, 13).

From this, the subject-matter of independent claim 1 differs in that the fastener installation tool is further characterised by:

- the key having a shank with a non-circular external surface and a tip end with a non-circular external surface, the shank of the key being disposed within the tubular bore of the shaft;
- the tip end being configured to matingly engage with a complementary shaped non-circular recess in the fastener of the type having the non-circular recess in the end of the fastener;
- a key holder having a non-circular aperture that matingly engages the shank of the key having a complementary shaped non-circular shape to the non-circular aperture, the key holder being attached to the exterior surface of the head; and

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a spring having one end of the spring attached to the key and another end of the spring attached to the head.

- 2.1 The subject-matter of claim 1 is therefore novel (Article 33(2) PCT).
- 2.2 The problem to be solved by the present invention may be regarded as providing improved key holder that provides anti-rotation to the key and resistance to twisting deformation or bending of the key.
- 2.3 The solution to this problem proposed in independent claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons: Document D2 discloses a spring (40) for preventing rotation of the key (pin 34). D2 does therefore not suggest to provide a key holder, mounted on the head of the fastening tool, having a non-circular aperture that matingly engages the shank of the key having a complementary shaped non-circular shape to the non-circular aperture to solve the problem posed.
3. Independent claim 12 refers to a kit comprising a key, a key holder and a spring for retrofitting in a fastener installation tool known from D1. Neither D1 nor any other prior art document discloses the technical features of the kit. The subject-matter of claim 12 is therefore novel (Article 33(2) PCT). The kit solves the same problem as mentioned under point 2.2 of this written opinion. The solution to this problem proposed in independent claim 12 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the reasons mentioned above (see point 2.3 of this written opinion).
4. Claim 13, formulated as an independent claim, includes all the features of novel and inventive independent claim 1 and a tool component attached to the head for rotatably operating the gear. Hence the subject-matter of claim 13 is also novel (see point 2 and 2.1 of this written opinion) and inventive (see point 2.2 and 2.3 of this written opinion).
5. Claims 2-11 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step. Claims 14 and 15 are dependent on claim 13 and as such also meet the requirements of the PCT with respect to novelty and inventive step.